

STATUS OF THE CLAIMS

1. (Currently amended) A method for obtaining a population of cells enriched for umbilical cord matrix stem cells from an umbilical cord ~~matrix~~ comprising: (a) enzymatically dispersing umbilical cord matrix to provide a fraction of cells comprising umbilical cord matrix stem cells ~~fractionating an umbilical cord matrix source of cells, the source substantially free of cord blood, into a fraction with umbilical cord matrix stem cells, and a fraction depleted of umbilical cord matrix stem cells,~~ (b) exposing the enzymatically dispersed fraction ~~with umbilical cord matrix stem cells~~ to conditions suitable for stem cell proliferation and (c) passing said fraction with umbilical cord matrix stem cells ~~to remove non-adherent cells and thus selecting a fraction of cells~~ enriched for umbilical cord matrix stem cells, wherein said umbilical cord matrix stem cells are negative for CD34 and CD45, positive for telomerase activity, can be expanded in vitro, and maintained in culture through repeated passages.
2. (Cancelled).
3. (Currently amended) A ~~cultured isolate of cells~~ comprising a population of cells enriched for umbilical cord matrix stem cells isolated by (a) enzymatically dispersing umbilical cord matrix to provide a fraction of cells comprising umbilical cord matrix stem cells, (b) exposing the enzymatically dispersed umbilical cord matrix to conditions suitable for stem cell proliferation and (c) passing umbilical cord matrix cells to remove non-adherent cells thus selecting a fraction of cells enriched for umbilical cord matrix stem cells from an umbilical cord matrix source of stem cells, other than cord blood, the isolate comprising primitive immortal umbilical cord matrix stem cells, wherein said umbilical cord matrix stem cells ~~in said cultured isolate~~ in said population are negative for CD34 and CD45, positive for telomerase activity, can be expanded in vitro, and be maintained in culture through repeated passages.

4-11. (canceled).

12. (Currently amended) A method of generating a bank of cells comprising a population of cells enriched for umbilical cord matrix stem cells from an umbilical cord matrix, the method comprising: (a) enzymatically dispersing umbilical cord matrix to provide a fraction of cells comprising umbilical cord matrix stem cells ~~fractionating an umbilical cord matrix source of cells, the source substantially free of cord blood, into a fraction with umbilical cord matrix stem cells, and a fraction depleted of umbilical cord matrix stem cells,~~ (b) exposing the enzymatically dispersed ~~fraction with~~ umbilical cord matrix stem cells to conditions suitable for stem cell proliferation and (c) passaging ~~said fraction with~~ umbilical cord matrix ~~stem~~ cells to remove non-adherent cells ~~and thus selecting a fraction of cells~~ enriched for umbilical cord matrix stem cells, wherein said umbilical cord matrix stem cells are negative for CD34 and CD45, positive for telomerase activity, can be expanded in vitro, and maintained in culture through repeated passages.

13. (original) The method of claim 12 further comprising tissue typing, banking and expanding the umbilical cord matrix stem cells needed.

14. (withdrawn) The method of claim 12 further comprising differentiating the umbilical cord matrix stem cells in vitro.

15. Cancelled.

16. (Currently amended) The method of claim 12 further comprising passaging the fraction of cells enriched for umbilical cord matrix stem cells for at least 10 times and the umbilical cord matrix stem cells remaining stable.

17. (Currently amended) The method of claim 12 wherein the umbilical cord matrix stem cells are from any amniotic species.

18. (Currently amended) The method of claim 12 wherein the umbilical cord matrix stem cells are human cells.
19. (Currently amended) The method of claim 12 wherein the umbilical cord matrix stem cells are porcine or bovine cells.
20. (Currently amended) The method of claim 12 wherein the umbilical cord matrix stem cells are equine or canine cells.
21. (Currently amended) The method of claim 12 wherein the umbilical cord matrix stem cells are rodent cells.
- 22-31. (cancelled)
32. (withdrawn) A method of transplanting the cell of claim 1, the method comprising: transplanting that cell into an animal that can benefit from a stem cell transplant.
33. (withdrawn) A method of treating an animal for alleviation of a disease symptom, the method comprising obtaining a UCMS cell isolated from a source of such cells derived from umbilical cord other than cord blood and transplanting that UCMS cell into an animal that can benefit from a stem cell transplant.
34. (currently amended) ~~A purified preparation~~ population of cells comprising of human UCMS cells comprising: cells isolated by (a) enzymatically dispersing umbilical cord matrix to provide a fraction of cells comprising umbilical cord matrix stem cells, (b) exposing the enzymatically dispersed umbilical cord matrix to conditions suitable for stem cell proliferation and (c) passaging umbilical cord matrix cells to remove non-

adherent cells thus selecting a fraction of cells enriched for umbilical cord matrix stem cells from Wharton's Jelly, wherein said cells are negative for CD34 and CD45, positive for telomerase activity, proliferate in an in vitro culture for over one year, maintain a karyotype in which all the chromosomes of the human are present and not noticeably altered through prolonged culture, and maintain the potential to differentiate into ~~derivatives of endoderm, mesoderm or ectoderm tissues throughout the culture.~~

35. (currently amended) The stem cells of claim 34 wherein the population of cells comprising human UCMS stem cells are typed, banked or expanded.

36-40. (canceled)

41. (Currently amended) An umbilical cord matrix stem cell culture comprising a stem cell population and a feeder cell population, the culture comprising: (a) a population of cells enriched for umbilical cord matrix stem cells isolated (a) enzymatically dispersing umbilical cord matrix to provide a fraction of cells comprising umbilical cord matrix stem cells , (b) exposing the enzymatically dispersed umbilical cord matrix to conditions suitable for stem cell proliferation and (c) passaging umbilical cord matrix cells to remove non-adherent cells thus selecting a fraction of cells enriched for umbilical cord matrix stem cells, wherein said population of cells is enriched for cells that are negative for CD34 and CD45, positive for telomerase activity, proliferate in an in vitro culture for over one year, maintain a karyotype in which all the chromosomes of the human are present and not noticeably altered through prolonged culture, and maintain the potential to differentiate into ~~derivatives of endoderm, mesoderm or ectoderm tissues throughout the culture~~; and (b) a feeder cell population comprising a population of cells enriched for amniote UCMS cells, said feeder cells incapable of beginning or conducting a mitotic process, but capable of providing growth factors.

42. (currently amended) The stem cell culture of claim 41 wherein the population of

cells enriched for umbilical cord matrix stem cells are typed, banked or expanded.

43. (currently amended) The stem cell culture of claim 42 wherein the population of
cells enriched for umbilical cord matrix stem cells and the feeder cells are of human
origin.

44-46. (cancelled)